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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FORD, JOHN K	

ART UNIT	PAPER NUMBER
3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,056	THYBO ET AL.	
	Examiner	Art Unit	
	John K. Ford	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *1-8* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/12/05,6/6/08,7/25/08,11/26/08.

Applicant's response of November 26, 2008 has been carefully considered. Applicant's election of Group II, apparatus claims 9-15, without traverse, is acknowledged. Applicant earlier elected, also without traverse, the "energy balance" species described in the specification (beginning at paragraph 0045 of the substitute specification). Applicant earlier indicated that all of claims 9-15 were readable on the energy balance species. Accordingly, an action on the merits as to claims 9-15 follows.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "first estimator." Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification? It is also unclear what "at least one parameter representative of the temperature conditions of the heat exchanger" actually is. Is it the heat exchanger temperature? Can it be something else? If so, what is that exactly, again referencing the appropriate part of the specification?

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "first intermediate memory means". Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification?

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "second intermediate memory means". Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification?

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "second estimator." Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification? It is also unclear what "a parameter indicative of expected heat exchange between the heat exchanger and the second fluid" actually is. Which of the many disclosed calculations in the specification corresponds to the structure for "establishing a parameter indicative of expected heat exchange between the heat exchanger and the second fluid" and how is such a calculation supposed to be a piece of structure appropriate for inclusion in an apparatus claim?

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "third intermediate memory means". Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification?

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "a processor establishing an estimated second fluid outlet temperature". Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification? Is this a piece of structure or just another

calculation performed by the computer? If it is the latter then claim it properly and not as an apparently separate piece of structure.

It is very unclear in claim 9 what disclosed structure in the specification corresponds to the "a comparator comparing the estimated second fluid outlet temperature, or a parameter established on the basis thereof, with a reference value". Is this something inside a computer? If so, what is it exactly, referencing the appropriate part of the specification? Is this a piece of structure or just another calculation performed by the computer? If it is the latter then claim it properly and not as an apparently separate piece of structure.

It is unclear what the metes and bounds of the limitation "parameter established on the basis thereof". If applicant cannot put some boundaries on this limitation, the examiner would suggest deleting it from the claim.

In claims 9 and 10, are each and everyone of the "means" recitations intended to invoke 112, sixth paragraph, or not? If some are and some not, which ones are which? The examiner would strongly suggest using the recognized "means for" language followed by function as set forth in the MPEP to properly invoke 35 USC 112, sixth paragraph, as appears to be applicant's intent.

In claim 10, is the "parameter" claimed the same one that is claimed in claim 9? If not, what is it precisely? If it is another calculation and not really a piece of structure, claim it properly.

Claim 15 appears to be a method of use claim improperly depending from an apparatus claim. See MPEP 2114, incorporated here by reference. Please write it as a proper apparatus claim.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-12 and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McIntosh (Canada 2344908).

The rejection is formulated under both 35 USC 102 and 103 because of the multiplicity of vagaries noted above. McIntosh establishes numerous estimators estimating parameters representative of temperature conditions of a heat exchanger (see Figure 27), which heat exchanger is a condenser of a vapor compression refrigeration system (see Figure 13). The McIntosh computer (see page 7, line 4) which performs the calculations detailed throughout the disclosure of McIntosh inherently has

a multiplicity of "intermediate memory means" to store the results (both partial and completed) of the various mathematical manipulations of the input data (Table I, page 11) such as various parts of RAM and various hard drive and cache memories as well as a host of registers internal to the computer of McIntosh. The most relevant Figures for the calculations involving predicting condenser performance are Figures 4 and 10. The second fluid inlet temperature "T_cws" is clearly disclosed. The expected heat exchange between the second fluid and the condenser is calculated (Figures 4 and 10) and obviously stored by the computer so that the comparisons discussed in relation to Figure 27 (see the four columns located under the word "condenser" in Figure 27) can be performed. The computed and stored values of "CWTD" (difference between the condenser supply water temperature and return water temperature) between the present value and the previously stored values when the apparatus was operated "fault-free" (see Abstract of McIntosh) are used to determine both the fouling of the heat exchanger and the sufficiency of flow of the second fluid (Figure 27, see, specifically, rows labeled "Condenser water Flow change" and "Condenser tube Fouling")

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh as applied to claim 9 above, and further in view of any one of Vogel (USP 4,136,528) or Vogel (4,193,781) or Dube (USP 6,089,033).

Each of these references discloses a refrigerated display cabinet refrigeration system with a roof mounted outdoor air-cooled condenser. To have used the

refrigeration monitoring and fault detection system of McIntosh (particularly the condenser monitoring/fault system discussed exhaustively in the above rejection) to have monitored and displayed faults in at least the condensers of the refrigeration systems of any one of Vogel (USP 4,136,528) or Vogel (4,193,781) or Dube (USP 6,089,033) would have been obvious to avoid the economic loss to the supermarket if their dairy, meat and/or frozen food cabinets failed to cool because of a fault in the roof mounted condenser or other refrigeration system component.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John K. Ford/
Primary Examiner, Art Unit 3744